in its infancy. But it will probably be a long time before we can depend on the accuracy of very small motions in the line of sight, and larger motions are liable to be disturbed by the vicinity of dark satellites or companions. It may be also that the spectral lines are liable to be displaced by other causes than motion in the line of sight. The spectrum of the *Nova* in *Auriga* is rather startling, if such velocity is the only admissible explanation of it. The velocity of a double star in the line of sight will also vary with the part of its orbit which it is describing, and a larger proportion of the stars are probably binary than we are as yet aware of.

There is thus much to mask the Sun's motion in the phenomena of the stellar spectra, and though VOGEL'S 51 stars may not be very well selected for ascertaining the Sun's goal, I believe their proper motions would afford a closer approximation to its true position than is afforded by their spectroscopic velocities. The computation would be worth making in order to see whether the cause of the variance lay in the method employed or in the selection of the stars.

THE TRANSIT OF *MERCURY*, NOVEMBER 10, 1894, AT WILMINGTON, N. C.

BY E. S. MARTIN.

[Abstract.]

The sky, on the 10th, was cloudless. At ingress the Sun's limb was remarkably steady and sharply defined. I was enabled, therefore, to obtain a good observation of the transit from beginning to end. I used my 5-inch CLARK refractor with power of 105.

The first and second contacts were well seen, the limbs of the Sun and planet being sharply defined. I detected no appearance of "black drop" or elongation of the planet at either interior contact, nor did I see the body of the planet, or any light around it, at first contact, on the part exterior to the Sun. But, after second contact and during the entire transit, the planet was surrounded by a halo or corona of a dim gray color which, in contrast with the light of the body of the Sun, had a ghastly

white appearance. The estimated width of the halo was about one-third or one-half the diameter of the planet. The body of the planet was intensely black (sometimes blue-black) and exquisitely defined.

I did not see the spot of light on the disc of *Mercury* observed by some at other transits, though some friends (without any knowledge of such a phenomenon) noticed such an appearance, although I could not see it, even when my attention was called to it.

The third and fourth contacts (owing to the agitation of the Sun's limb) were not so easily seen as the first and second.

The times were taken from an excellent Elgin watch, which I compared with the noon signal from the Naval Observatory, and are as follows :

1st Contact*	10^h 57^m 15^s	A. M.	E. S. T.
2d	10 59 08		
3d	4 11 02	P. M.	
4th	4 12 55		

WILMINGTON, N. C., December 10, 1894.

AN INTERESTING TRANSIT OF *JUPITER'S* THIRD SATELLITE.

BY E. S. MARTIN.

A transit of *Jupiter's* third satellite, observed the night of December 27, was peculiar in some respects, though I have observed "dark transits" of this satellite before. The satellite and its shadow were on the planet when observation began, at 6^h 45^m, Eastern Standard time. The shadow was intensely black, round and well defined. The satellite, on the contrary, appeared of a dusky hue, its shape a long, irregular ellipse, the longer axis parallel to *Jupiter's* belts, and about one-fourth the apparent size of the shadow. I would have taken it for a spot

* Comparing my times of first and second contact with those obtained at neighboring observatories, I am inclined to think my watch must have been fast about 16^s. The times of third and fourth contacts seem about right.